

**(12) PATENT APPLICATION**

**(11) Application No. AU 198281180 A1**

**(19) AUSTRALIAN PATENT OFFICE**

**(54) Title**  
**GUIDE POST**

**(51) International Patent Classification(s)**  
**E01F 009/01**

**(21) Application No: 198281180**

**(22) Date of Filing: 1982.03.03**

**(30) Priority Data**

**(31) Number**  
**PE7834**

**(32) Date**  
**1981.03.03**

**(33) Country**  
**AU**

**(43) Publication Journal Date: 1982.09.09**

**(71) Applicant(s)**  
**Australian Plasteel Extruders Pty. Ltd.**

**(54) Inventor(s)**  
**Udo Kurt Bruckner**

**BEST AVAILABLE COPY**

---

(12) AUSTRALIAN PATENT ABSTRACT

(19) AU

(11) AU-A -81 180/82

---

(54) GUIDE POST

(71) AUSTRALIAN PLASTEEL EXTRUDERS PTY. LTD.

(21) 81 180/82 (22) 3.3.81 (23) 3.3.82 (24) 3.3.81

(43) 09/09/82

(51)<sup>3</sup> E01F 9/01

(72) UDO KURT BRUCKNER

(74) GH

(57) Claim

1. A resiliently deformable roadside guide post comprising a length of plastics material provided at one end portion thereof with one or a plurality of incisions in the material which define a tab portion bendable out of the plane of the surrounding material, the tab portion being arranged to engage ground into which said one end may be inserted during installation of the post, said engagement being effective to resist subsequent removal of the end portion from the ground.

The present invention relates to road-side posts.

Up to relatively recently, it has been the popular practice to use relatively strong wooden posts as guide posts marking the boundaries of the carriageway of freeways and country or rural roads. In very recent times, however, it has been proposed to use resiliently deformable guide posts which, unlike the timber posts, bend upon impact thereon by an errant road vehicle, then returning to their usual upright position once the vehicle has passed over the deflected post. In one case such a post comprises an extruded portion of plastics material of generally C-shaped cross section. Figures 1 to 3 of the attached drawings show the general configuration of this known guide post, and which is the subject of Australian Design Registration 79710.

Disadvantages of this guide post are as follows.

First, there is no convenient method available for installation of this post. In particular, for each post which is to be installed a hole must be drilled into the ground to accommodate the post. Then, a cross piece is inserted in an aperture provided in the foot portion of the post in order to provide resistance to the withdrawal of the post once the post together with the cross piece have been inserted. Finally, the hole is back filled. Further, since the guide post is formed with generally smooth and continuous surfaces, particularly on the convex surface, in order to secure an appropriate reflector to the convex surface of the post it of necessity must stand proud of the

adjacent guide-post surface. In this case, if a motor vehicle collides with this post causing its deflection, there is a strong chance, particularly if a relatively thick reflector device is used, that as the motor vehicle passes over the semi-collapsed guide post, either the reflector will be forcibly detached from the top of the guide post or, alternatively, the post will be pulled out of the ground as the vehicle passes over it.

The present invention is directed towards the provision of an improved roadside guide post.

According to one aspect of the present invention there is provided a resiliently deformable roadside guide post comprising a length of plastics material provided at one end portion thereof with one or a plurality of incisions in the material which define a tab portion bendible out of the plane of the surrounding material, the tab portion being arranged to engage soil material into which said one end may be inserted during installation of the post, said engagement being effective to resist subsequent removal of the end portion from the soil.

The marker post is preferably of constant C-shaped cross section therefore comprising a generally planar central portion flanked by two generally curved side portions.

The post may be formed by any convenient plastics fabrication technique but advantageously it is extruded.

The tab may be of any soil engaging shape but preferably it tapers away from the root thereof to enable efficient

stacking of a number of such posts. Generally the tabs will be triangles or trapezia.

5 Preferably the marker post is provided with two ribbed portions moulded into its convex surface and aligned parallel with the main axis of the post. Thus, when the post is provided with a light reflector disposed on the post between these ribs, if the post is subject to impact by a motor vehicle, the post will deflect to allow the vehicle to pass over it, and importantly, the reflector is protected by the ribs from being hooked onto the vehicle as it passes. Thus, the reflector is protected from being forcibly pulled from the post, and also the post is not pulled out of the ground.

10 According to another aspect of the invention there is provided a method of installing a post as defined above, the method comprising the steps of:

15 providing a ram of similar though greater dimensions to the post, driving the ram into the ground into which the post is to be inserted, removing the ram to provide an aperture in the ground, and inserting a post into the aperture.

Advantages of the invention and its embodiments are as follows:

25 1. Posts embodying the invention are easier to instal than the prior art posts considered above since the conventional large hole is not required to accommodate the cross-piece. Also any need for back filling and

compaction is minimised.

2. Fewer components need be carried by the persons installing the guide posts.
3. In the event of a motor vehicle colliding with a guide post embodying preferred forms of the invention the reflector provided on the guide post between the ribs in most cases will not be dislodged. Also, there is less likelihood that the post will be pulled out of the ground by such an impact since the reflector usually will not catch on the motor vehicle as it passes over the post.

The invention will be more clearly understood when considered in conjunction with the following description of a preferred embodiment thereof and the accompanying drawings in which Figures 1 to 3 illustrate the prior art whilst Figures 4 to 7 show an embodiment of the invention.

Figure 1 is an elevation view of a guide post of the prior art,

Figure 2 is a plan view of the guide post of Figure 1,

Figure 3 is a side elevation view of the guide post of Figure 1,

Figure 4 is an elevation view of a guide post embodying the invention,

Figure 5 is a plan view of the guide post of Figure 4,

Figure 6 is a side elevation view of the post of Figure 4,

Figure 7 is an enlarged version of the view of the guide

post provided in Figure 5.

Figures 1 to 3 show a prior art guide post formed from a length of extruded plastics material generally C-shaped in section.

5 Figure 2 illustrates in particular the cross sectional form of the prior art post. Attention is particularly directed to the provision of a light reflector 11 at the upper end of the post and aperture 12 towards the foot of the post. Of course, the reflector is provided in order to ensure that the guide post is effective at night to mark the boundary of the carriageway on which it is installed. The aperture 12 at the foot of the post is provided to allow cross piece 13 to be fitted into the aperture during the installation of the guide post. This cross piece is effective in preventing the post from being pulled out of the ground in which it is installed on impact by a motor vehicle.

10 As noted above, this guide post has a disadvantage in that a complete hole must be dug in order to install the guide post together with its cross piece 13. Also, the provision of reflector 11 at the top of the post often results in the reflector being torn from the post during impact by a motor vehicle or, in the alternative, the entire post is pulled from the ground.

15 In Figures 4 to 7 there is depicted an embodiment of the present invention. In this case, again the post 20 is made from an extruded length of plastics material but is provided

with additional features which are advantageous to its installation and operation. First, tab 21 is cut from the extruded plastic and bent out from the plane of the central portion of the post to an angle of preferably about  $30^{\circ}$  to this plane. Angles of from  $10^{\circ}$  to  $60^{\circ}$  may be appropriate. Thus, once the post is installed in a hole in the ground this tab engages with the soil lying adjacent the hole thereby assisting in holding the post within the hole during the impact of a motor vehicle with the post.

Further, ribs 22 are formed into this convex surface or face of the post. These ribs are shown in more detail in Figure 7. The advantage of these ribs is that reflector 23 may be fitted to the convex surface of the post between ribs 22 and thus the reflector is prevented in many cases from being pulled from the post during collision by a motor vehicle since it is in effect shielded by the ribs lying on each side of it.

The post may be made from any suitable plastics material but rigid polyvinyl chloride is preferred.



**CLAIMS**

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A resiliently deformable roadside guide post comprising a length of plastics material provided at one end portion thereof with one or a plurality of incisions in the material which define a tab portion bendable out of the plane of the surrounding material, the tab portion being arranged to engage ground into which said one end may be inserted during installation of the post, said engagement being effective to resist subsequent removal of the end portion from the ground.
2. A guide post according to claim 1 of generally C-shaped cross-section defining concave and convex opposed surfaces.
3. A guide post according to claim 2 which further comprises a pair of spaced longitudinally extending ribs integrally formed on the convex surface.
4. A guide post according to claim 3, which further comprises a reflector fixed to the plastics material at a position between the longitudinally extending ribs, the reflector not standing proud of the ribs.
5. A guide post according to any preceding claim when the tab portion is triangular, the apex thereof being defined by two incisions and, pointing in a generally longitudinal direction away from an adjacent free end of the post.
6. A method of installing a guide post according to claim 1 which comprises the steps of  
providing a ram of cross-sectional configuration substantially similar to the cross-sectional configuration of the guide post,

driving the ram into the ground and removing so as to  
form a hole for receiving said one end portion,  
inserting the post into the hole, and  
allowing the tab portion to engage the ground so as to  
resist removal from the ground.

5

7. A resiliently deformable roadside guide post  
substantially as described in conjunction with Figures 4 to  
7.

DATED this 1st day of March, 1982.

10

AUSTRALIAN PLASTEEL EXTRUDERS PTY.  
LTD., by their Patent Attorneys  
GRIFFITH HASSEL & FRAZER

15

20

25

**DRAWINGS**

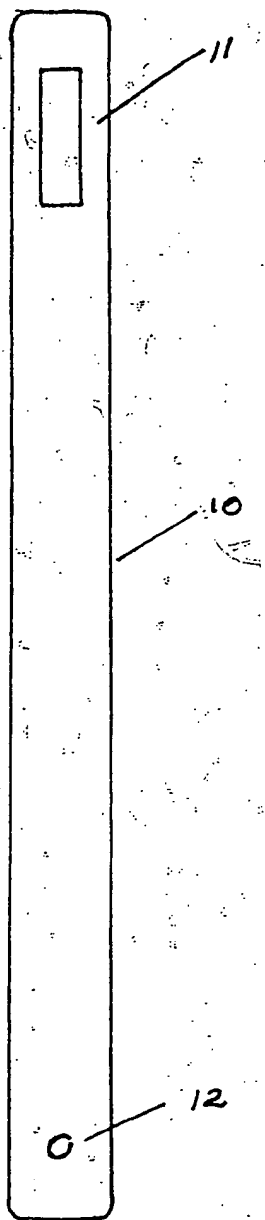


FIG 1

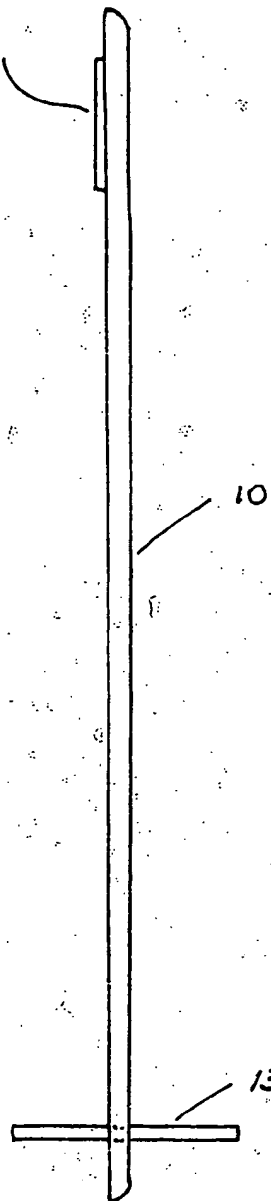


FIG 3.

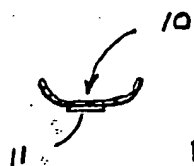


FIG 2

PRIOR ART

81 180/82

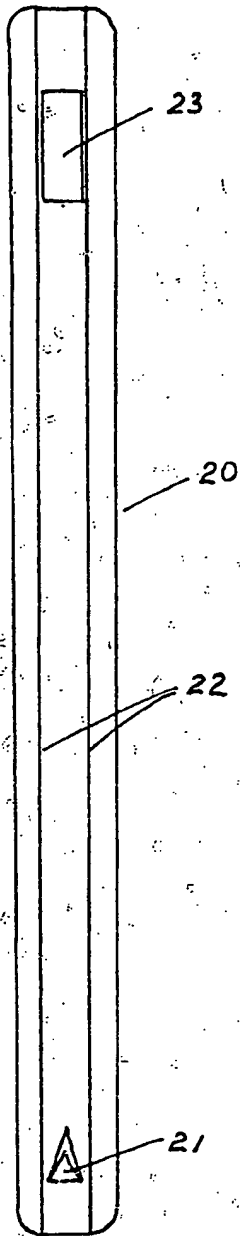


FIG 4

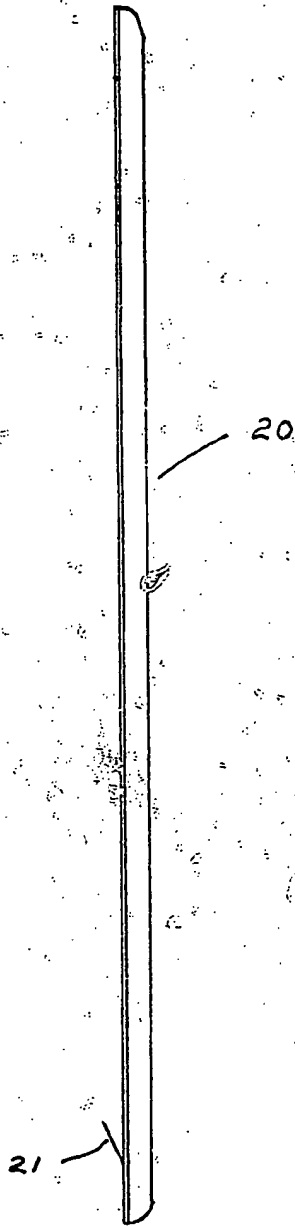


FIG 6

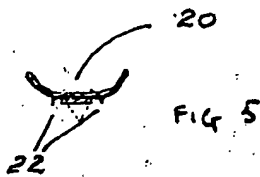


FIG 5

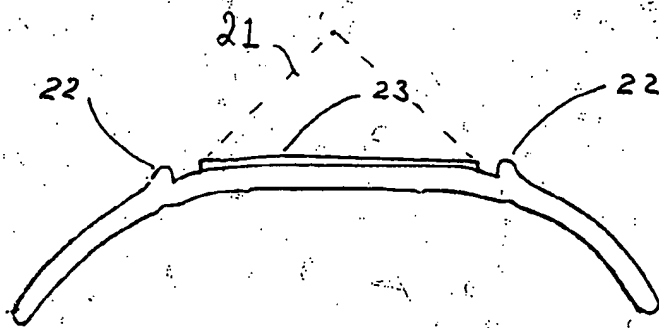


FIG. 7.

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**